

# INTERCONNECTING GULFPORT

CONNECTING CRITICAL DEVELOPMENTS WITH SAFE & RELIABLE TRANSPORTATION OPTIONS



## Grant Application

FOR USDOT NATIONAL INFRASTRUCTURE  
INVESTMENTS – BUILD DISCRETIONARY  
GRANTS (FY 2019)

JULY 2019

HUMBLY SUBMITTED BY:  
BILLY HEWES  
MAYOR OF THE CITY OF GULFPORT, MISSISSIPPI



PREPARED BY



## Project Information Sheet

### Project Summary

|  |   |
|--|---|
| Project Title                                | Interconnecting Gulfport  |
| Project Location                             | Gulfport, MS; part of Gulfport, MS Urbanized Area (UACE 35920)  |
| Project Description                          | Project will add approximately 0.824 miles of 4-lane boulevard style roadways and 1.127 miles of 2-lane roadway complete with lighting, storm drain improvements, multi-modal paths etc. to implement critical links between existing commercial developments, provide public access to lands to encourage future commercial development, and ensure critical safety improvements to eliminate having a single point of ingress / egress for an existing outlet mall. |
| Project Website                              | <a href="http://www.InterconnectingGulfport.com">www.InterconnectingGulfport.com</a>  |
| Project Length                               | 1.951 miles   |
| Total Remaining Project Budget               | \$32.22 Million (nominal dollars)   |
| BUILD Funding Requested                      | \$20.46 Million (63.5% of total remaining project budget)   |
| Anticipated Pre-construction Completion Date | April 2023  |
| Anticipated Construction Completion Date     | August 2025   |

### Applicant

Mayor Billy Hewes  
City of Gulfport, MS  
2309 15<sup>th</sup> Street  
Gulfport, MS 39501  
(228) 868-5700  
mayorsoffice@gulfport-ms.gov

## Table of Contents

|   |    |
|---|----|
| Project Information Sheet .....                                 | 1  |
| Table of Contents .....   | 2  |
| 1. Project Description.....                                     | 3  |
| 2. Project Location .....                                       | 8  |
| 3. Grant Funds, Sources and Uses of All Project Funds .....     | 9  |
| 4. Selection Criteria .....                                     | 10 |
| 4.1 Primary Selection Criteria .....                            | 10 |
| 4.1.A - Safety .....  | 10 |
| 4.1.B - State of Good Repair.....                               | 11 |
| 4.1.C - Economic Competitiveness.....                           | 12 |
| 4.1.D – Environmental Sustainability .....                      | 14 |
| 4.1.E - Quality of Life.....                                    | 16 |
| 4.2 Secondary Selection Criteria .....                          | 17 |
| 4.2.A – Innovation .....  | 17 |
| 4.2.B - Partnership .....                                       | 18 |
| 5. Project Readiness .....                                      | 19 |
| 5.1 Technical Feasibility .....                                 | 19 |
| 5.2 Project Schedule.....                                       | 21 |
| 5.3 Required Approvals.....                                     | 23 |
| 5.4 Assessment of Project Risks and Mitigation Strategies ..... | 24 |
| 6. Benefit-Cost Analysis .....                                  | 24 |
| 7. List of Attachments.....                                     | 28 |

# 1. Project Description

## Background

In December 1994, the City of Gulfport doubled its size with an annexation of 33 square miles north of its then City limits. It is now the State of Mississippi's second largest City and the corner stone of the State's second largest census Urbanized Area (Gulfport, MS, Population 208,948).

With an Annual Average Daily Traffic (AADT) count of over 60,000 vehicles along Interstate 10 and over 50,000 along Highway 49, the interchange between this interstate and this highway is arguably the busiest intersection in the region and one of the busiest in the entire State of Mississippi. The traffic volume associated with this interchange is the driving factor for the rampant commercial development at all four corners. Additionally, Highway 49 is a designated primary hurricane evacuation route as well as the only direct access from Interstate 10 to the Port of Gulfport.

The predominant zoning in all 4 corners connected to this interchange is B-4, "Highway Business District;" this is the city's least restrictive commercial zoning district and this area has a high level of development in place. However, lack of interconnectivity and the interstate dividing the two sectors has stifled development and created unsafe and confusing movements necessary to travel from one area to the next.

In the northeast corner of the intersection is the well-established "Crossroads Shopping Center." This center contains nearly 600,000 square feet (sf) of leasable retail space and is

currently leased at approximately 97% occupancy.

At over 85 total acres, the newly established Anchor Plaza development has seen rapid development in the northwest corner of this interchange. With construction beginning in 2016, the last few years has seen the construction of 2 hotels, 3 major restaurants, and associated strip shopping centers. There is also an existing Sam's Club and other retail / restaurant development in the area.

The southwest corner of this interchange is home to the Gulfport Premium Outlet Mall, a 40-acre facility with over 300,000 sf of leasable outlet space for major retailers. Additionally, there is a Home Depot and other development in this corner and full development along Highway 49 between the interstate and Airport Road.

Finally, while not concentrated in one named shopping center, the southeast corner of Highway 49 and Creosote Rd (south of Interstate 10) is fully developed through Airport Road with three car dealerships, Wal-Mart, hotels, restaurants, general retail and some office space.

## Proposed Improvements

Requesting FY2019 Better Utilizing Investments to Leverage Development (BUILD) Discretionary Grant Funding, this project will provide an environmentally sustainable infrastructure solution to mitigate a growing congestion issue and to interconnect established commercial centers within the City of Gulfport. It will

increase connectivity to places of employment, as well as to places for education, commerce, human services and other opportunities. The project will support workforce development, create new jobs by paving the way for business growth and business expansion, and will connect Americans with a safe and reliable multi-modal transportation system. Several private-owners and developers have been engaged and are in support of this project; many are willing to participate in a public-private partnership to facilitate a rapid and successful project completion.

The first leg of the proposed improvements will consist of extending Daniel Boulevard approximately 1,800 linear feet (lf) from its current termini within Anchor Plaza to a proposed new interchange recommended in a Planning and Environmental Linkage (PEL) Study commissioned by Mississippi Department of Transportation (MDOT) in October 2017 (Attachment F). A traffic signal is planned at the western end of this Road. This road would be a “complete-street” concept with a shared pedestrian / bicycle multi-use path and a raised median with lighting and intermittent turn lanes; all contained in a 100’ right-of-way.



The second leg of the proposed improvements will be the installation of a traffic signal at 34<sup>th</sup> Avenue with a boulevard road section curving from 34<sup>th</sup> Avenue to the new signal mentioned at the western termini of Daniel Boulevard. Heading south from this signal, a new overpass will be constructed in line with the proposed MDOT interchange mentioned above. The design of this overpass will be made in close relation with MDOT to ensure the overpass constructed as part of this project will meet the design standards needed to serve as the overpass associated with the proposed interchange. At the end of the overpass, the roadway will continue to a planned roundabout at the intersection with Factory Shop Boulevard (Creosote Rd). The complete-street concept will be utilized between 34<sup>th</sup> Avenue and Daniel Boulevard with a similar section as described above. A sidewalk will be placed along the east side of the 5-lane overpass and the remaining portion between the roundabout and overpass will mimic the complete-street section. This leg of the project will be approximately 2,600 lf.

The final leg of the project will connect to the aforementioned roundabout and head due south. After 2,000 lf, the project will bend to the east where it will connect to Highway 49, in line with Airport Road to the east. The final 950 lf of this 5,600 lf section will utilize the existing Poole Street right-of-way. Improvements to the traffic signal at Airport Road and Highway 49 will be made. This portion of the project will be a two-lane roadway with no curb and gutter or sidewalk.

Throughout the project area, any proposed sidewalks will be designed to meet the standards set forth by both the Access Board

and the Americans with Disabilities Act; these improvements will provide much needed safe pedestrian and cyclist access along this bustling corridor. The grass strips along the median and in the rights-of-way will provide environmentally-beneficial filtering of surface pollutants and piped storm water conveyances will better facilitate surface runoff. Finally, complimenting the multi-modal safety improvements of the sidewalks and bike lanes, the addition of street lighting will further create a safe atmosphere for pedestrians and commuters alike. The local public transit provider, Coast Transit Authority (CTA), will be engaged to consider bus routes and / or other means of public transit in the overall project area.

This project will decongest overloaded traffic routes in one of, if not the heaviest developed commercial areas along the Mississippi Gulf Coast. It will also create new public rights-of-way for businesses to locate along and provide interconnectivity to developments otherwise separated by an interstate. The overpass proposed will also provide direct access from the recently expanded sports complex on the north side of the interstate with the planned sports facility on the south side. This project will provide additional points of access to Highway 49, a designated primary hurricane evacuation route and direct link between

the interstate and the Port of Gulfport. It will also compliment other planned improvements in the area including the widening of Landon Road, interstate interchanges, and the westerly extension of Creosote Road to Canal Road. Finally, there is currently only one entrance / exit to the Gulfport Premium Outlet Mall; this entrance crosses the Kansas City Southern (KCS) Railroad. A stalled or slow-moving train can block emergency vehicles from accessing this development. This project will add two crossings to access this mall while alleviating train wait times for Landon d traffic.

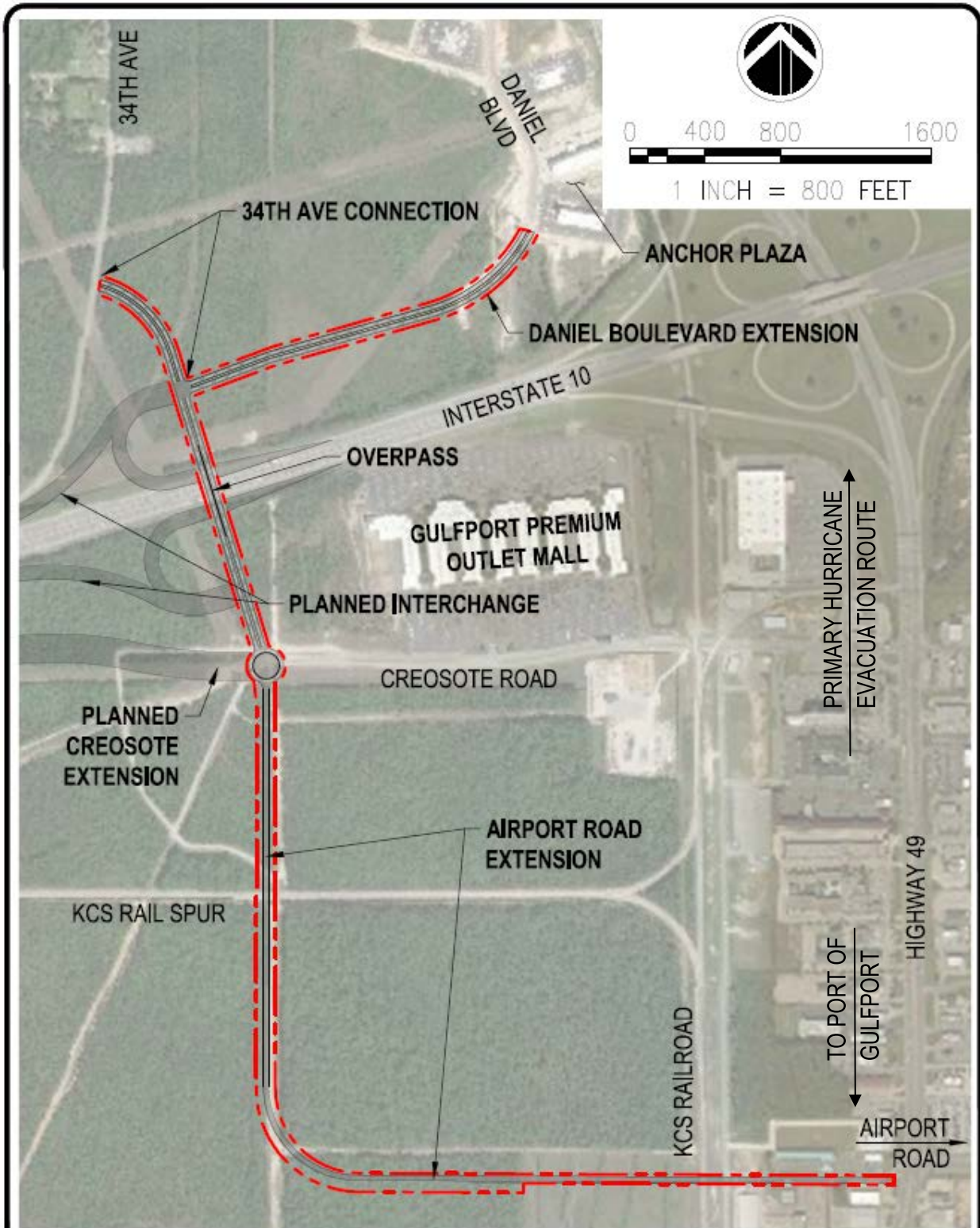
A detailed project overview map and adjacent project area map are provided on subsequent pages.

The economic benefits of this infrastructure project were identified by Scott Delano with the development firm DDR during an interview; DDR owns Crossroads Shopping Center. In this interview, Delano said “Anytime you have an increase in traffic flow it is a great seed for new development and a higher demand for businesses to locate in the area.” Delano pointed out this leads to “increase tax base for the area [and] sales taxes for the area.” The jobs and tax revenues generated by additional businesses in the area will benefit the coastal economy, particularly this growing portion of Gulfport.



Figure 1.1 – City of Gulfport Comprehensive Plan / Urban Development





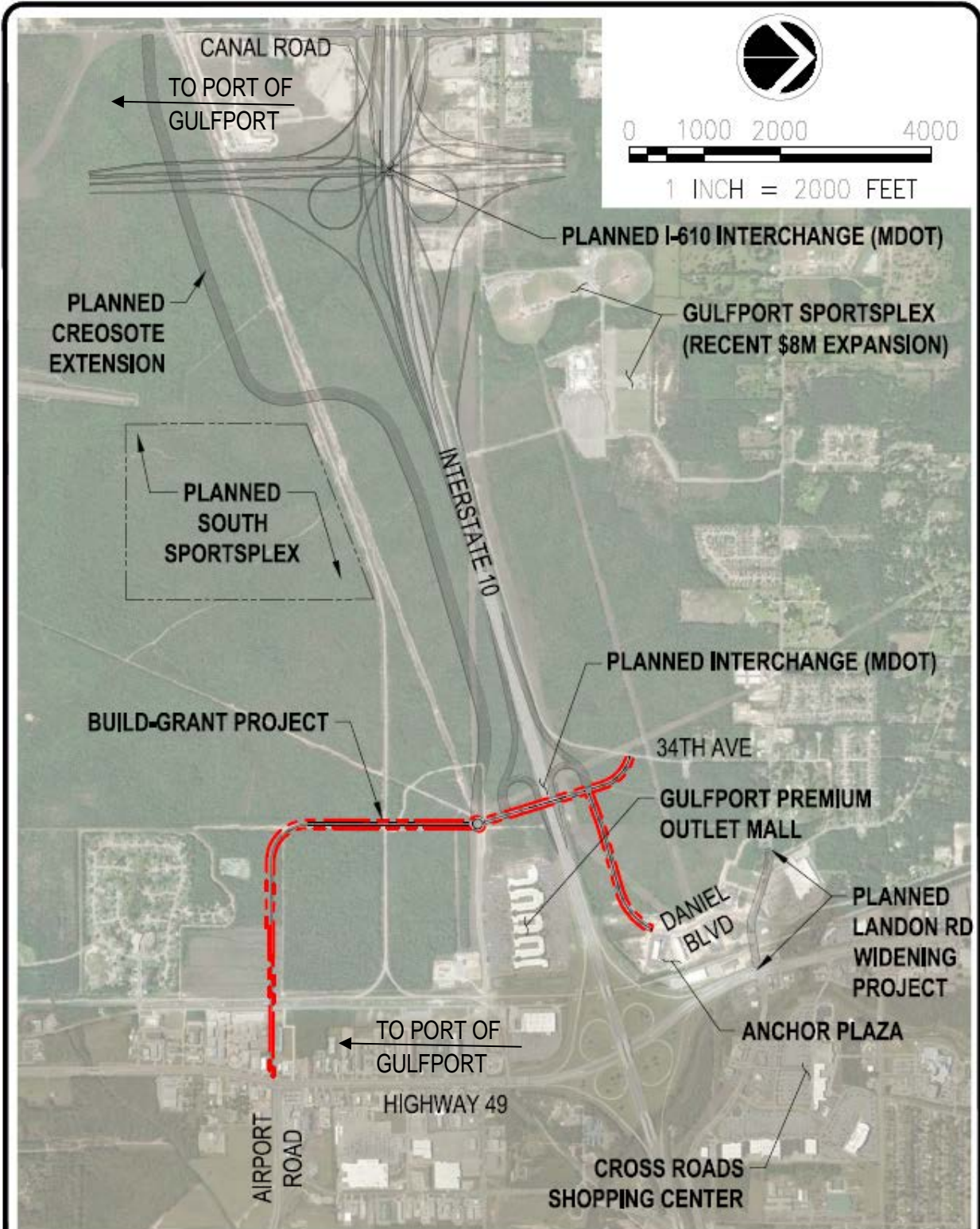
Pickering Firm, Inc.  
 Facility Design • Civil Engineering • Surveying •  
 Transportation • Natural / Water Resources  
 126 Rue Magnolia  
 Biloxi, MS 39530  
 228.432.5925

## INTERCONNECTING GULFPORT BUILD GRANT 2019

OVERVIEW MAP

1"=800'

JULY 2019



Pickering Firm, Inc.  
 Facility Design • Civil Engineering • Surveying •  
 Transportation • Natural / Water Resources  
 126 Rue Magnolia  
 Biloxi, MS 39530  
 228.432.5925

## INTERCONNECTING GULFPORT BUILD GRANT 2019

ADJACENT PROJECTS

1"=2000'

JULY 2019



## 2. Project Location

This project is located in Gulfport, Harrison County, Mississippi; it is within the limits of the "Gulfport, MS" Urbanized Area (UACE: 35920, population 208,948).

The entirety of the project is in Census tract 31.01 with a total 2010 population of 7,305 and 24.2% minority. Portions of the developments referenced in this report are in census tract 35.05, 18, and 32.04 tracts with populations of 6,696, 2,808, and 3,862 respectively. The project is located in the 39503 and 39501 zip code. Zip code 39503 has 45,309 residents with 15% of all families below the poverty level and zip code 39501 has 21,987 residents with nearly 36% of families below the poverty level.

The eastern end of Daniel Boulevard is located near 30°26'02"N, 89°05'56"W and

its western connection to the overpass at 30°25'54"N, 89°06'16"W. The roundabout will be located near 30°25'38"N, 89°06'11"W and the final connection with Airport Road improvements and its intersection with Highway 49 will be at 30°25'12"N, 89°05'33"W

The project is generally located at the northwest and southwest corners of the Interstate 10 and Highway 49 interchange. ½ mile to the South. The project will cross the KCS railroad and a rail spur and is approximately 1 mile west of the Industrial Seaway (navigable waterway). Portions of the project are within 1¼ miles of the Gulfport-Biloxi International Airport (GPT) and within 4 miles of the Port of Gulfport.

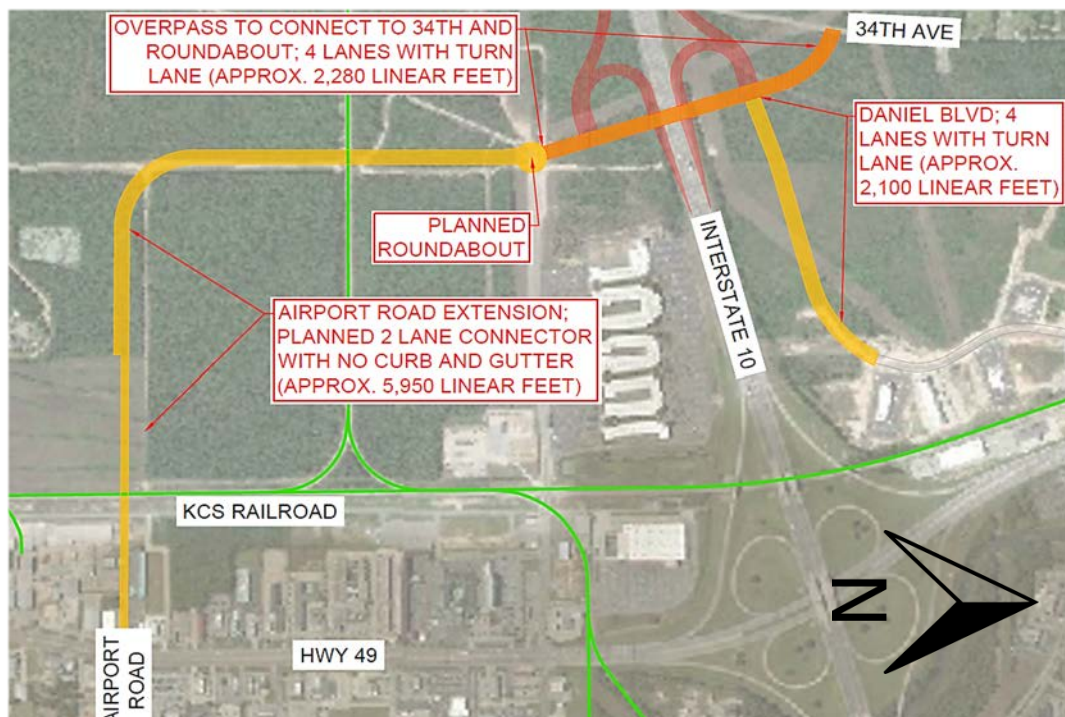


Figure 2.1 - Project Location Map

### 3. Grant Funds, Sources and Uses of All Project Funds

The tables below present the amount of grant funding requested, the availability / commitment of fund sources and uses of all project funds, total project costs, percentage of project costs that would be paid with BUILD Discretionary Grant funds, and the

identity of all parties providing funds for the project and their percentage shares. All values presented below are in nominal dollars (anticipated costs inflated based on projected year of expenditure):

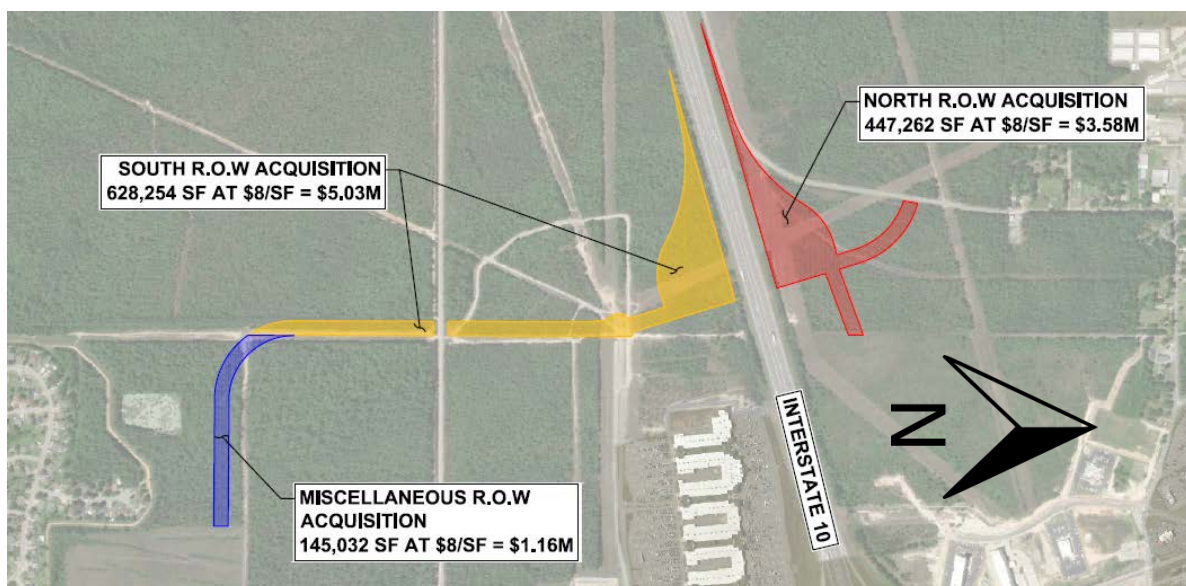
| Activity                 | Project Budget      | Percent of Project Budget |
|--------------------------|---------------------|---------------------------|
| Engineering Fees         | \$1,330,000         | 4.1%                      |
| R.O.W. Acquisition       | \$10,310,000        | 32.0%                     |
| Environmental Permitting | \$740,000           | 2.3%                      |
| Construction Costs       | \$19,840,000        | 61.6%                     |
| <b>Total</b>             | <b>\$32,220,000</b> | <b>100%</b>               |

Table 4.1 – Breakdown of Remaining Project Budget

| Funding Source   | Total Funding Amount | Percent Share |
|--|----------------------|---------------|
| Anchor Plaza Tax Increment Financing Plan                | \$3,150,000          | 9.8%          |
| Greater Gulfport Properties R.O.W. in-kind donation      | \$3,580,000          | 11.1%         |
| Turkey Creek Limited Partnership R.O.W. in-kind donation | \$5,030,000          | 15.6%         |
| FY 2019 BUILD Discretionary Funds                        | \$20,460,000         | 63.5%         |
| <b>Total of All Benefits</b>                             | <b>\$32,220,000</b>  | <b>100%</b>   |

Table 4.2 – Project Funding Breakdown

Note: Values for right-of-way (R.O.W.) and Environmental Permitting listed above are estimates based on previous experience in the area and are subject to change based on final appraisals and final design.



## 4. Selection Criteria

### 4.1 Primary Selection Criteria

#### 4.1.A - SAFETY

The chief focus of this project is commuter, pedestrian, and cyclist safety. Where applicable to the design concept, the proposed “complete-street” boulevard concept will separate pedestrian, bicycle, and vehicular traffic. The interconnectivity can provide better access for emergency vehicles, while the installation of sidewalks and bike lanes will promote similar goals of programs such as “Safe Routes to Schools.”

While generally not improvements to existing infrastructure, the proposed design does include at least fifteen (15) unique countermeasures identified as providing some level of crash reduction in FHWA-SA-08-011, “Desktop Reference for Crash Reduction Factors.” These include:

- ❖ Improving Signal Timing
- ❖ Increasing number of lanes
- ❖ Installing sidewalk
- ❖ Providing bicycle lanes
- ❖ Installing signals
- ❖ Installing left turn lane
- ❖ Installing raised median
- ❖ Using roundabouts
- ❖ Improving intersection alignment
- ❖ Installing pedestrian crossing
- ❖ Installing pedestrian signals
- ❖ Installing STOP bars
- ❖ Installing curbing
- ❖ Improving drainage patterns
- ❖ Installing lighting

Perhaps the most tangible life safety aspect associated with this project is providing additional means of ingress and egress to the Gulfport Premium Outlet Mall. As it exists today, only one road (Factory Shop Boulevard, an extension of Creosote Road) provides access both into and out of this mall. With over 300,000 sf of retail space and 75 stores carrying name brand merchandise, this mall provides over 2,000 parking stalls and maintains a steady and heavy occupancy (estimated by Simon Property Group at 3.5 million vehicle trips per year). However, the only access to this site has both a crossing on the main north / south rail line for KCS and is directly under the flight path for Gulfport-Biloxi International Airport. As such, there is a daily risk of emergency vehicles experiencing delayed response time due to a passing train blocking this access.

In a catastrophic scenario, a derailed train or a crashed plane could completely cut off any access to the Outlet Mall until large equipment can access the property to remove any obstructions. In this event, any chemicals or otherwise harmful products spilled from the train or plane could further jeopardize the health and safety of all patrons of this outlet mall. This project will provide an additional access point across the railroad for shoppers at the Outlet Mall as well as those on nearby Landon Road.

This project will also provide traffic on the west side of Highway 49 additional means to access a critical hurricane evacuation route.

Another key safety aspect of this project is the use of a roundabout in lieu of traditional lighted intersections. In studies conducted in 2001 and 2007 by the Transportation Research Board, National Academy of Sciences, and the National Cooperative Highway Research Program, roundabouts were estimated to reduce total number of crashes by 35%. Additionally, these studies suggested that injuries were reduced by 76% and fatalities by 90%. Roundabouts can nearly eliminate the risk of head-on and right-angle (“T-bone”) crashes and on a

standard 4-way intersection can reduce the number of potential vehicle conflict points from 32 to 8.



#### 4.1.B - STATE OF GOOD REPAIR

The Federal Transit Administration’s June 2010 “National State of Good Repair Assessments” postulates that around 1/3 of the United States’ transit assets are in marginal to poor condition with over \$80 billion needed to bring these assets to a State of Good Repair; the Transit Cooperative Research Program claims an asset to be “in a state of good repair if it is safe, reliable, and keeps the customer satisfied.” The purpose of this project is to provide a transportation infrastructure network in good operating condition that will encourage existing and support new commercial and economic growth.

Daniel Boulevard and Factory Shops Boulevard (Creosote Road) are the only means of ingress to their respective isolated commercial centers which escalates normal wear and tear; this increases maintenance

costs for the City of Gulfport and commuter vehicles.

If the current transportation network remains as is, its deteriorating condition will threaten safe and reliable movement of goods and transportation options for commuters. Deteriorated roadways and lack of interconnectivity will soon stifle the current economic growth in the region with a high potential to cause an economic decrease in the region.

With Tax-Incremental-Financing in place as well as public-private partnerships in the works, this project has a strong starting capital position. Increased tax revenues generated by maintaining and encouraging additional commercial development will help justify the project’s long-term cost.



#### 4.1.C - ECONOMIC COMPETITIVENESS

Undeniably, the interchange between Highway 49 and Interstate 10 is the main commercial intersection within the City of Gulfport, MS. An unfortunate consequence of the rampant development in the area is the associated traffic congestion. This project will reduce such congestion, will provide additional access to public rights-of-way in the City's least restrictive commercial zone, and will supplement the City's regional economic competitiveness.

This project will provide an interconnected transportation network to 3 major named employment centers in the City as well as all other commercial development in the area. Access to these areas will be more reliable, safer, and quicker than currently provided, whereby decreasing transportation costs to consumers and employees. Between just the current Anchor Plaza Development, Gulfport Premium Outlet Mall and Cross Roads Shopping Center, there is an estimated 900,000 sf of retail space, 150,000 sf of hotel space, and 50,000 sf of food service. Utilizing factors for space utilization per job as developed by the United States Energy Information Administration, this suggests over 1,100 jobs exist within these three commercial subdivisions alone.



In providing the additional public rights-of-way that would be created through this project, approximately 380 acres of land within the City's most aggressive commercial zone would have direct public access where before there was none. With the interstate interchange in close proximity, this newly accessible commercial area would be primed for quick development. Using the guidelines in the Metropolitan Council's "How to Measure Employment Intensity and Capacity," this probable retail use would have a floor-area-ratio of approximately 17% and could create up to 2,800,000 sf of new retail development. At 1 worker per 1,450 sf (per U.S. Energy Information Administration), this would result in nearly 2,000 additional jobs. Additionally, these new developments would produce additional sales tax of approximately \$2M per year when fully developed.

This project will immediately provide additional access points to Highway 49 which is the current connecting road between the Port of Gulfport and Interstate 10. As illustrated on page 7, this project will also serve as a critical connector between other planned improvements scheduled to provide more reliable access to the Port. Improvements to this road can also help facilitate long-term reliable freight movement to and from existing and future nearby commercial and nearby industrial uses; this would increase economic opportunity and assist the United States in continuing to compete in a global economy.

Finally, this project will result in short-, medium-, and long-term job creation through direct, indirect, and induced employment opportunities. Direct jobs,

generally construction / labor jobs, include those created for this government-sponsored project. Indirect jobs are created because of, but not directly for, the government funding; these may include manufacturing jobs required to create supplies for construction. Finally, induced jobs are created outside of the government-sponsored project, but as a direct-result; this can be attributed to increases in local spending by workers of the direct and indirect jobs.

In September 2011, the Council of Economic Advisers (CEA) determined, based on analysis of actual job-creation from transportation projects under the Recovery Act, that a “job-year” is created by every \$76,923 in transportation infrastructure spending. As shown on the Benefit-Cost Analysis, this project would involve approximately \$22,223,676 in direct construction costs resulting in approximately 289 jobs.

Per the estimated schedule, the distribution of these jobs would be:

| Year         | Amount of Construction | Jobs Created |
|--------------|------------------------|--------------|
| <b>2023</b>  | \$5,829,905            | 76           |
| <b>2024</b>  | \$10,239,970           | 133          |
| <b>2025</b>  | \$6,153,801            | 80           |
| <b>TOTAL</b> | <b>\$22,223,676</b>    | <b>289</b>   |

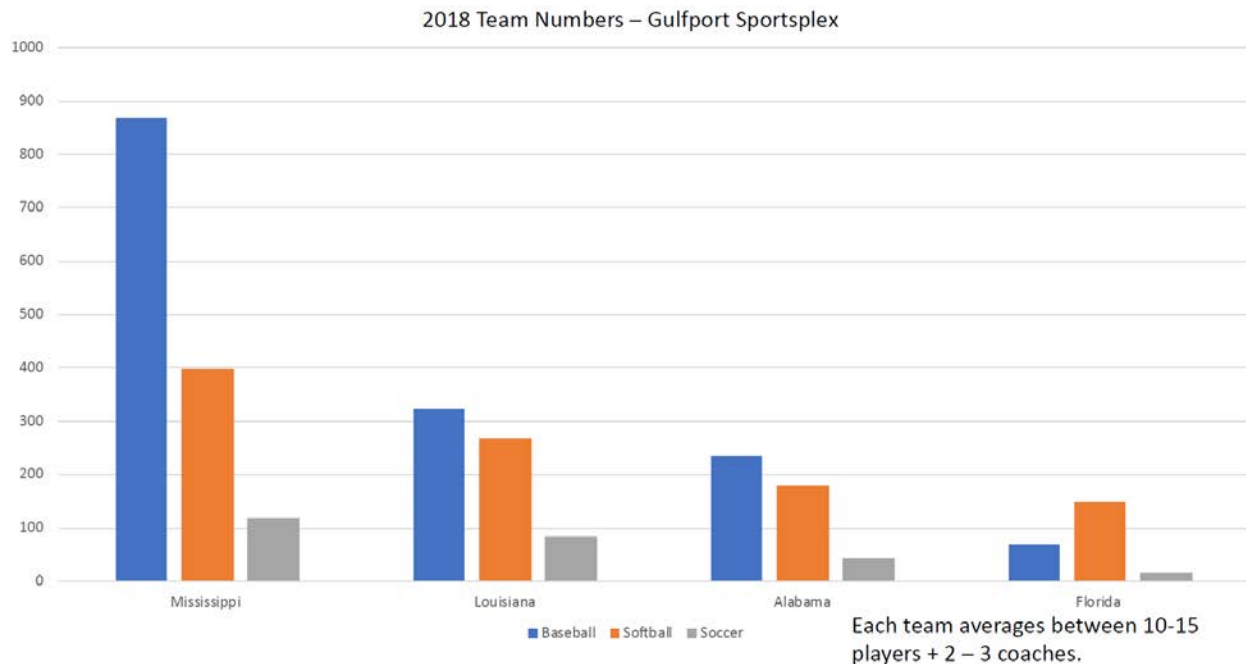
Table 5.1 – Estimated Job Creation

### **Regional Impact**

Improvements proposed as part of this project will have a significant regional impact along with an impact to national and even international visitors.

Stated above this project’s improvements focus on providing additional means of access from the south side of the interstate to the north side; key to this will be better linking the Gulfport Sportsplex to both sides of the I-10. Quantified in the chart below, this Sportsplex is a major economic driver for the City of Gulfport’s tourism. This Sportsplex hosts a variety of regional baseball, softball, and soccer tournament. In 2018 there were as many as 20,500 out-of-state players at the Sportsplex in addition to the approximately 21,000 players from across the entire State of Mississippi. These visitors’ primary motivation for traveling to Gulfport was to participate in these tournaments. Assuming half of the Mississippi teams are regional and counting parents and other siblings, a total economic impact for the Sportsplex is approximately 100,000 visitors that would otherwise not stay in Gulfport hotels, shop at Gulfport stores, or eat at Gulfport restaurants. This overall impact is expected to continue to increase with the recent Sportsplex expansion.

Additionally, the completion of this project will greatly increase accessibility of the Gulfport Premium Outlet Mall. According to the manager of this mall, the well-known global retailers at this mall are a large regional draw and even cater to an international audience staying on the Mississippi Gulf Coast. The manager of this Outlet mall estimates 3 million visitors shop at this mall yearly and that nearly 2.1 million visitors each year are from regional, national, or international areas. This leaves only 30% of its clientele to be users from the Mississippi Gulf Coast.



#### 4.1.D – ENVIRONMENTAL SUSTAINABILITY

Per a review by the EPA in 2013, the transportation sector accounts for 27% of the total greenhouse gas emissions in the United States. The Fall 2009 edition of “Access Magazine” included a study by Matthew Barth and Kanok Boriboonsomsin relating traffic congestion and greenhouse gases. In this article they illustrate how carbon emissions are often incorrectly only associated with trip distance without accounting for vehicle speed. They go on to explain that emissions (in grams/mile) are roughly equal when a passenger car is traveling between 40 and 60 mph. This report surmises that, where congestion reduces free-flowing vehicle speed below 45 mph, CO<sub>2</sub> emissions will increase. They conclude that by even marginally increasing travel speeds, congestion mitigation practices can reduce fuel consumption and greenhouse gas emissions. As a real-world example, a one-hour time period of Interstate 110 in downtown Los Angeles was found to have an average vehicle speed of

34.3 mph and an estimated 166 metric tons of CO<sub>2</sub> emissions produced. By Barth and Boriboonsomsin’s calculations, increasing average traffic speed to 52.7 mph could decrease CO<sub>2</sub> emissions to 146 metric tons, a 12% decrease.

Currently, on the south side of the interstate, the only access to and from the Gulfport Premium Outlet Mall is via Factory Shop Boulevard (Creosote Rd). This single point of access combined with its heavy use often stacks many cars at the traffic signal at US Hwy 49. Because of the relatively short signal time (due to the traffic counts along Hwy 49), it is very common for commuters, delivery trucks, etc. to wait through multiple signal cycles before exiting to or through Highway 49. The same long queue time exists with respect to Anchor Plaza customers exiting via Daniel Boulevard on the north side of the interstate. These prolonged wait times and associated reduced vehicle speeds cause increased fuel

consumption and increased emissions as described in the report by Barth and Boriboonsomsin. Interconnecting these large isolated commercial developments will decrease wait times for commuters whereby decreasing overall greenhouse gas emission.

To further reduce greenhouse gas emissions and reduce dependence of foreign and

domestic oil, this project proposes separate bike lanes (on both the north and south sides) as well as ADA accessible sidewalks. There is planned coordination with the local transportation agency for additional public transit options in the region. Providing these multi-modal transportation options to local users will reduce the dependency on passenger vehicles and reduce emissions.

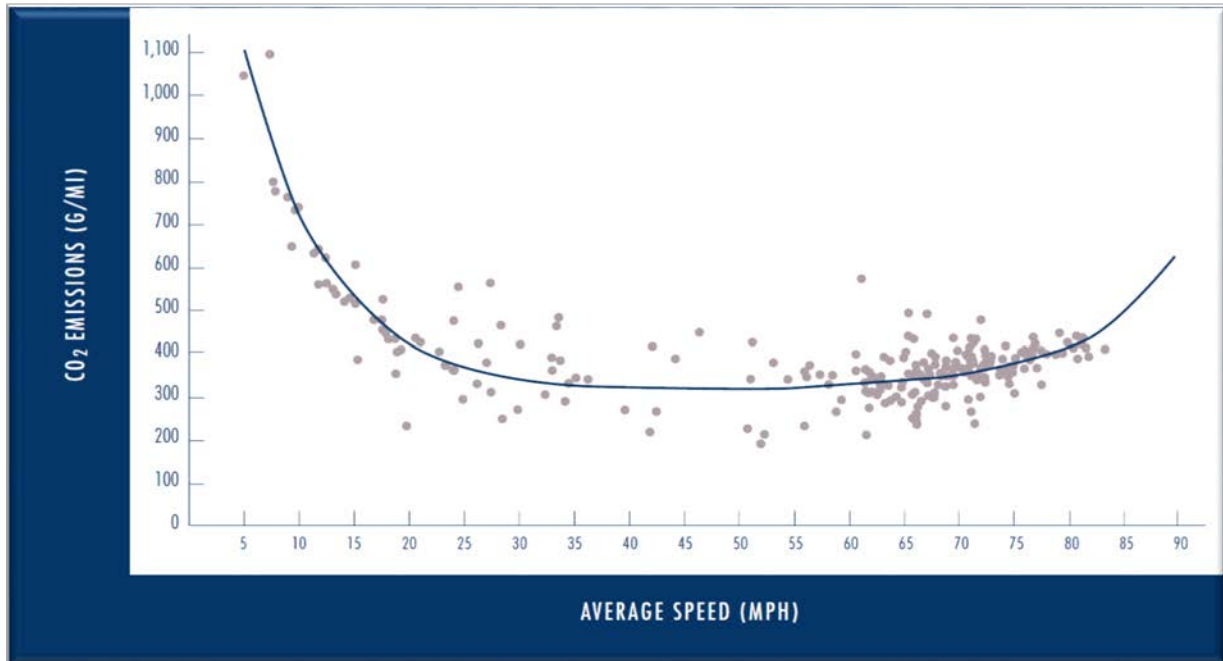


Figure 5.1 - Emission-speed plot of individual trips or trip segments, Barth, Matthew and Boriboonsomsin, Kanok. "Traffic Congestion and Greenhouse Gases." Access Magazine Fall, 2009

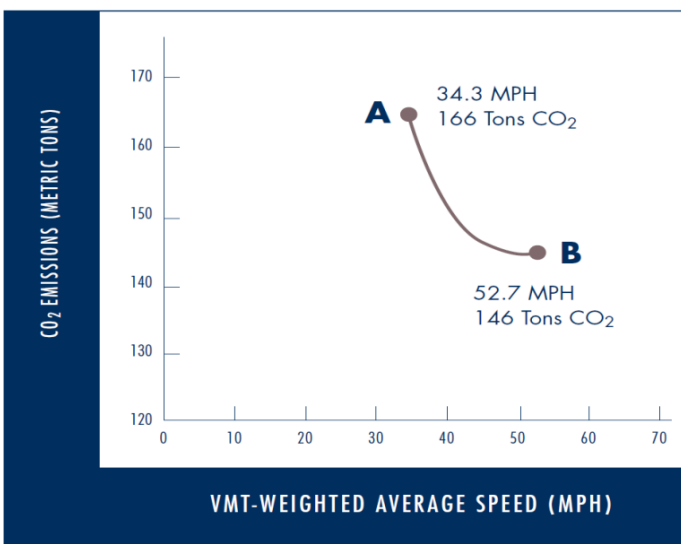


Figure 5.2 – Potential CO<sub>2</sub> emission savings through congestion mitigation on Interstate 110 in downtown Los Angeles, Barth, Matthew and Boriboonsomsin, Kanok, "Traffic Congestion and Greenhouse Gases." Access Magazine Fall, 2009



During the design and planning stages, all necessary steps to receive a full National Environmental Policy Act (NEPA) clearance will be performed. Unfortunately, there is a high potential for this project to disturb existing wetlands. However, careful design will be performed to disturb a minimal amount of wetlands. For instance, previously cleared areas along the southern most leg of the project are indicated on the United States Fish and Wildlife Services Wetland Mapper to be outside wetland areas. These cleared rights-of-way will be utilized to the fullest extent possible. Given the developed nature of nearby lands, there are no expected major impacts to threatened or endangered species.

A final means of combating any negative effects to water quality will be the use of up to 12,000 lf of roadside vegetated swales. Primarily along the extension of Airport Road (southern-most leg of the project), vegetated swales such as this are effective at removing particulate pollutants from stormwater runoff. For instance, as described in the EPA's "Storm Water Technology Fact Sheet; Vegetated Swales" (September 1999), by the Nationwide Urban Runoff Program (NURP), indicated a carefully designed swale that received runoff from a parking lot was effective at reducing heavy metals particulate concentrations by as much as 50%.



#### 4.1.E - QUALITY OF LIFE

Completion of this project will surely provide more freedom on transportation decisions for both commuters and freight movement. It will interlink several of the largest commercial areas within the City, provide an additional means of crossing Interstate 10, triple the means of ingress / egress to the outlet mall south of Interstate 10 and to

Anchor Plaza north of Interstate 10, provide more access points to a designated primary hurricane evacuation route and decrease wait times at two existing traffic signals along Highway 49.

This project will also provide additional access to important community services,

most notably, providing additional choices for accessing the newly-expanded Gulfport Sportsplex. This project is also within one mile from the airport and there are three elementary schools within approximately one mile of this project's footprint.

Investing in this complete-street boulevard concept will also provide healthier, safer walkable and bike-able thoroughfares that provide commuters and bicyclists safe refuge from vehicular traffic in this existing developed area. These thoroughfares will link commuters with a plethora of existing and future job opportunities as well as the nearby Garden Park Medical Center (hospital) approximately 3/4 mile from the project's northern area.

Finally, City ordinance No. 2822, known as the "Fiber Optic Initiative" (originally enacted February 2015 and amended June 2018) requires all road improvement projects and capital improvement projects to include, at a minimum, empty conduit runs, vaults, manholes, handholes, etc. sized appropriately to allow for future connection of fiber optic services lines for expansion of broadband internet for all Gulfport residents.



## 4.2 Secondary Selection Criteria

### 4.2.A – INNOVATION

The City of Gulfport is committed to commuter safety and will utilize innovative approaches to transportation safety. For instance, there are two new traffic signals proposed as part of this project and one signal upgrade. The City will utilize the latest in LED signal head technology for visibility and the latest in traffic detection as well as dynamic signal timing based on traffic flows. Another key safety aspect of this project is the use of a roundabout in lieu of traditional lighted intersections at the western edge of the outlet mall. The project will also work alongside the railroad (KCS) to add three (3) power-activated switches to facilitate quicker train movements.

As defined by the "National Complete Streets Coalition," complete streets "enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities." The concept of "complete streets" is still relatively new and only recently have any notable projects come to fruition in the State of Mississippi. This project will prioritize safety for all users utilizing this "complete street" concept. Inclusion of bike lanes and sidewalks separates pedestrian and bicycle traffic from vehicles; this innovative strategy will meet the project's long-term goals of safety and mitigating vehicular congestion, thus enhancing the operation of the roadway.



National Complete Streets Coalition

A final innovative approach for a successful project delivery will be through public/private partnerships. Leveraging of private funds will free up public dollars. For instance, there is an approved Tax Increment Financing (TIF) plan to fund the extension of Daniel Boulevard through the entirety of the Anchor Plaza Development site (see attachment E). Established by City Council action on May 20, 2014, this TIF plan, with a maximum bond amount of \$15 million, was successfully utilized to construct the first 1,450 lf that has already been completed. This TIF model could easily be explored with either, or both, the landowners to the north and/or south of the interstate. As this project moves forward, the City of Gulfport will continue to discuss this option with these landowners and determine if a mutually beneficial arrangement is viable.

Additionally, there are two private land owners that are willing to donate privately-

held properties directly to the City for use as public-right-of-way (see letters of support, Attachment B). Survey and right-of-way plats are already being developed for these parcels.

The City of Gulfport has reviewed the applicability of Special Experimental Project No. 14 (SEP-14) and No. 15 (SEP-15). This particular project does not seemingly fit well within the Scope of SEP-14 with its focus more on design-build type contractual arrangements. However, it does appear that there are some opportunities within the SEP-15 project that could benefit the intended design-bid-build process assumed for this project. While the City fully anticipates sufficient time exists to complete this particular project prior to the closeout date established by FHWA, the City will happily work with FHWA on the benefits to following the SEP-15 process to further expedite project delivery.

#### 4.2.B - PARTNERSHIP

The City of Gulfport is committed to ensuring a long-term successful project and recognizes the importance of engaging strong collaboration between a multitude of stakeholders. Partnership for this project includes project development partners (such as coordination with MDOT for construction of the overpass), KCS for rail crossings, project funding partners, public / private partnerships, and general supporters of the project from a local and regional benefit level. Support from this project will result in several strong public-private partnership opportunities, including donation of right-of-way, letters of support, and utilization of an existing TIF plan.

Gulfport has diligently coordinated this project with a variety of public, private, and non-profit entities to ensure long-term project success. Project supporters, many of who have provided written letters of support include:

- ❖ Melinda McGrath, Executive Director, Mississippi Dept. of Transportation
- ❖ Roger Wicker, Senator, US Senate
- ❖ Steven Palazzo, Congressman, US House of Representatives
- ❖ Cindy Hyde-Smith, Senator, US Senate
- ❖ Phil Bryant, Governor, Mississippi
- ❖ Tom King, Southern District Transportation Commissioner, MDOT
- ❖ Angel Kibler Middleton, President, Harrison County Board of Supervisors

- ❖ Rusty Walker, Council President, City of Gulfport
- ❖ Paul Gavin, Executive director, Gulf Regional Planning Commission
- ❖ Kris Riemann, Director of Engineering, City of Gulfport
- ❖ David Parker, Director of Economic Development, City of Gulfport
- ❖ Clay Williams, Executive Director, Gulfport-Biloxi International Airport
- ❖ Jerad Ward, Land Owner (south)
- ❖ Roy Anderson, Land Owner (north)

## 5. Project Readiness

### 5.1 Technical Feasibility

A detailed statement of work is provided under Section 1 above. Generally, it would include three separate project areas. The first leg would extend Daniel Boulevard 1,800' to a proposed new lighted intersection that will be in line with an interstate interchange proposed by MDOT. This project area would include a shared pedestrian / bicycle multi-use path and a raised median with lighting and intermittent turn lanes, all contained in a 100' right-of-way.

The second project area would include a new traffic signal at 34<sup>th</sup> Avenue, a boulevard road section curving from 34<sup>th</sup> Avenue through the new signal mentioned above, a new overpass (which will ultimately be part of the proposed MDOT interchange) and finally a boulevard road section ending at a planned roundabout with the intersection of Factory Shop Boulevard (Creosote Road). Excepting the overpass, this portion of the project will utilize a similar section as described above. A sidewalk will also be placed along the east side of the 5-lane overpass.

The final leg of the project will begin at the aforementioned roundabout and head south. It will bend to the east where it will

connect to Highway 49, in line with Airport Road to the east (utilizing the existing Poole Street right-of-way where applicable). Improvements to the traffic signal at Airport Road and Highway 49 will be made. This portion of the project will be a two-lane roadway with no curb and gutter or sidewalk.

The project compliments several planned transportation improvements in the area. It will provide a critical direct link between the City's recently expanded Sportsplex (north of Interstate 10) and a planned sports & recreational facility directly to its south, currently split by the interstate. Another nearby planned improvement includes the extension of Creosote Road west to Canal Road; this extension, for which right-of-way has been obtained, will tie directly to the roundabout planned by this project. Finally, the city is in the process of widening Landon Road near the entrance to Anchor Plaza (environmental phase and route selection complete, engineering design underway). This project will allow users on the south side of the interstate direct access to Landon Road and Landon Road users direct access to the south side of the interstate; both of which will facilitate safe and efficient access



while eliminating the need to cross the KCS railroad twice.

Associated risks for this project include, though may not be limited to: adding a new crossing on the existing KCS main railroad line, providing an overpass across an existing interstate, and the probability of wetlands being present along a portion of the project.

Mitigation of the risk associated with a new crossing of KCS right-of-way has already begun. Generally, KCS will require applications for new crossings to be offset by minimum of three existing crossings to be closed. In this case, KCS has been engaged and has tentatively agreed to allow the City of Gulfport to close only two to offset the proposed Airport Road extension crossing. Two crossings being considered may include John Rd and 3<sup>rd</sup> St. Additionally, current plans will be for KCS to perpetually maintain the new Airport Road crossing. KCS, in partnering with the City of Gulfport on this crossing, will be committing an average of \$30,000 per year prior to full replacement at the end of the project lifecycle. Over the 20-year benefit cost analysis period this would equate to an added benefit of \$600,000 (2018\$) that would otherwise be a recurring obligation to the City of Gulfport (or approximately \$970,000 total when inflated at a rate of 2.50% per year).

Under normal circumstances, many State DOTs would strongly discourage any new locally owned elevated interstate crossings. However, MDOT has already self-mitigated the risk associated with adding the overpass

proposed as part of this project. In the referenced PEL Study commissioned by MDOT (final report in October 2017), MDOT's consultant recommended a new interchange be added in line with where Gulfport proposes the overpass associated with this crossing. By working directly with MDOT's design team, Gulfport's proposal to construct the planned overpass to MDOT standards and at the location required by MDOT's planned overpass, Gulfport will mitigate the risk associated with denial of an MDOT crossing permit. As presented MDOT will become a partner in the design process in lieu of "just" a permitting agency.

Finally, there are probable wetlands on site that will be disturbed by the proposed construction. The City of Gulfport will make every effort to minimize this disturbance. For instance there is an existing cleared right-of-way on the south side of the project that does not show up as wetlands on the USFWS wetland mapper. This cleared area will be utilized to the fullest extent possible. Any other disturbed wetland areas will follow normal permitting processes and mitigation through local wetland banks will be achieved.

Construction Cost Estimates were developed utilizing a program developed by MDOT. The estimates were based on the "Preliminary Project Development (Initial or Planning level cost estimate)" module within this program. Due to the lack of final design, a "50% chance the project cost will not exceed the provided estimate" was selected.

## 5.2 Project Schedule

As demonstrated, Gulfport has begun this project's required pre-construction activities including identifying real property that will be needed for construction. With the willingness of the two largest land owners to donate R.O.W. (see Attachment B), the City of Gulfport sees no reason that property acquisition will not be complete in sufficient

time to give U.S. DOT reasonable assurance that all BUILD Discretionary Grant funds allocated to this project will be obligated sufficiently in advance of September 30, 2021. An estimated schedule is presented below with a Gantt Chart on the following page (and as Attachment D):

| Activity   | Completion Date  |
|--|------------------|
| Start of Preliminary Engineering / NEPA                  | 1/1/2020         |
| End of Preliminary Engineering                           | 9/30/2020        |
| Completion of NEPA                                       | 2/1/2021         |
| Obligation of BUILD Funds                                | 4/1/2021         |
| Start of Final Design                                    | 4/1/2021         |
| Start of Right of Way Acquisition                        | 4/1/2021         |
| <b>CUT-OFF FOR OBLIGATION OF BUILD FUNDS</b>             | <b>9/30/2021</b> |
| Completion of Final Design                               | 4/1/2022         |
| End of Right of Way Acquisition                          | 10/3/2022        |
| Planned PS&E Approval                                    | 2/1/2023         |
| Planned Construction Contract Award Date                 | 4/3/2023         |
| Planned Construction Notice to Proceed Date              | 6/1/2023         |
| Planned Project Construction Substantial Completion Date | 6/2/2025         |
| Planned Project Closeout Date                            | 8/1/2025         |
| <b>CUT-OFF FOR EXPENDITURE OF BUILD FUNDS</b>            | <b>9/30/2026</b> |

**2019 BUILD GRANT  
CITY OF GULFPORT  
INTERCONNECTING GULFPORT**

| ID | Task Name                               | Duration | Start      | Finish      | 4th Qual | 1st Qual | 2nd Qual | 3rd Qual | 4th Qual | 1st Qual | 2nd Qual | 3rd Qual | 4th Qual | 1st Qual | 2nd Qual | 3rd Qual | 4th Qual |
|----|---|----------|------------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1  | Notice To Proceed                       | 0 days   | Wed 1/1/20 | Wed 1/1/20  |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 2  | NEPA Studies                            | 284 days | Wed 1/1/20 | Mon 2/1/21  |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 3  | Preliminary Engineering                 | 196 days | Wed 1/1/20 | Wed 9/30/20 |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 4  | Final Design                            | 262 days | Thu 4/1/21 | Fri 4/1/22  |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 5  | ROW Acquisition                         | 393 days | Thu 4/1/21 | Mon 10/3/22 |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 6  | PS&E Approval                           | 0 days   | Wed 2/1/23 | Wed 2/1/23  |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 7  | Bidding Activities                      | 20 days  | Thu 2/2/23 | Wed 3/1/23  |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 8  | Award Construction Contract             | 0 days   | Mon 4/3/23 | Mon 4/3/23  |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 9  | Construction Contract Notice To Proceed | 0 days   | Thu 6/1/23 | Thu 6/1/23  |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 10 | Construction Activities                 | 522 days | Fri 6/2/23 | Mon 6/2/25  |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 11 | Construction Substantial Completion     | 0 days   | Mon 6/2/25 | Mon 6/2/25  |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 12 | Project Closeout Activities             | 44 days  | Tue 6/3/25 | Fri 8/1/25  |          |          |          |          |          |          |          |          |          |          |          |          |          |
| 13 | Project Closeout                        | 0 days   | Fri 8/1/25 | Fri 8/1/25  |          |          |          |          |          |          |          |          |          |          |          |          |          |



Task

Split

Progress

Milestone

Summary

Project Summary

External Tasks

External Mile Task

Split

↓

## 5.3 Required Approvals

### 1) Environmental Permits

Gulfport is prepared to begin a full NEPA evaluation for this project immediately following selection for BUILD grant funding. A consultant familiar with the NEPA permitting process will be engaged to assist the City with getting all applicable environmental permits.

Some work related to a NEPA evaluation has already been begun. In May 2015, FTN Associates, Ltd., performed a wetland delineation on the property north of the interstate. Combining the findings of this report with information provided by the USFWS's wetland mapper, it is anticipated that this project may potentially impact wetlands common to South Mississippi. Accordingly, a Clean Water Act, Section 404 permit is expected to be obtained from USACE, Mobile District. This actual permitting process will begin once more detailed construction plans are developed and actual impacts are determined. It is anticipated that any wetland impacts will be mitigated through the purchase of credits in a nearby wetland bank.

Finally, this project is expected to disturb more than five acres during construction. Mississippi Department of Environmental Quality will require a site-specific Large Construction stormwater permit, issued under the National Pollutant Discharge Elimination System General Permit No.

MSR10. This permitting process is generally significantly quicker than the 404-permitting process; the impacts of this permit are also included in the anticipated project schedule above, under the engineering design phase.

### 2) State and Local Approvals

The only known state or local approval that will be required is a permit from the Mississippi Department of Transportation (MDOT) for any work set to take place within their interstate right-of-way (i.e. the overpass). However, with the intent of this overpass to serve as a future component of a planned interchange and the design of this overpass to be made in close relation with MDOT staff and MDOT specifications, it is expected that this permit would be easily obtained. The timeframe to acquire this permit is also included in the engineering design phase of the schedule prepared in the previous sections.

Additionally, while not shown in the current Transportation Improvement Plan (TIP), this part of this project is already in the Metropolitan Transportation Plan (MTP). Additionally, according to the letter of support from the Executive Director of the local Metropolitan Planning Organization (Gulf Regional Planning Commission), this project is already slated to be included in the upcoming TIP.



## 5.4 Assessment of Project Risks and Mitigation Strategies

The City of Gulfport is familiar with Federal Grant Programs and their procurement obligations required; with a talented pool of local consultants and contractors, the City does not anticipate any delays due to procurement of applicable services.

Further, the majority of the R.O.W. needed will come from only two property owners. Both of these owners are in full support of the project, even willing to donate the lands needed to see this project come to quick fruition. The City does not anticipate unwilling sellers or wavering real estate costs to hamper the project cost or schedule.

A second benefit to the willingness of local property owners to donate real property is its use as an “in-kind” match to the required

local participation levels to offset the dollars provided through the BUILD program.

Project permitting likely carries the highest project schedule risk. Again, incorporating MDOT improvements and input in the design of this project, permitting through MDOT is not anticipated to negatively affect the project or the project schedule. However, with the known presence of wetlands, the City anticipates an environmental review process and permitting will be required. To mitigate these effects on this project, particularly the project schedule, the City has assumed an ample NEPA timeline (13 months) within the project schedule and has already begun investigations into the potential environmental impacts (i.e. the 2015 wetland delineation performed on the property north of Interstate 10).

## 6. Benefit-Cost Analysis

A detailed Benefit-Cost Analysis (BCA) was performed as part of this grant application. The BCA was prepared in accordance with the guidelines described in the “Notice of Funding Opportunity for the Department of Transportation’s National Infrastructure Investments Under the Consolidated Appropriations Act, 2019” and in line with the recommendations of the “Benefit-Cost Analysis Guidance for Discretionary Grant Programs.” These worksheets for this BCA are included as Attachment “C.” All calculations for benefits and for costs are in nominal (year-of-expenditure) dollars and assume construction will be completed at the end of the 3<sup>rd</sup> quarter of 2025 and assume benefits and costs continuing for an additional 20 years (i.e. all anticipated

project benefits and costs were analyzed through 2045).

On the Benefits side, in-depth calculations were limited to Value of Travel Time, Vehicle Operating Costs, Residual Value of the Assets, and Safety Costs for both existing users and new users (assuming an Annual Average Daily Traffic (AADT) growth of 3.00% per year). Further, all benefits are taken from the impact to just the Outlet Mall traffic; daily trips were based on the 9<sup>th</sup> edition of the “Trip Generation Manual” published by the Institute of Transportation Engineers. For a “Factory Outlet Center” (ITE#823) with 300,000 sf, 7,977 daily trips are generated (assuming ½ are vehicles entering and ½ are vehicles exiting). This

daily trip estimate was considered conservatively less than the trip count provided by Simon Property Group (at 3.5 million / year). Further, in the improved conditions, traffic has the ability to enter / exit to the north, south, or east; traffic in the improved conditions is assumed to be evenly distributed in each direction. Finally, daily “population” was determined by multiplying ½ the daily trips (vehicles entering) by a vehicle occupancy ratio of 1.39 (common Average Vehicle Occupancy used by FHWA); this indicates approximately 5,544 people visit or work at this mall daily.

Regarding the Costs for the BCA, a holistic project cost was represented; this included R.O.W. acquisition, engineering fees, permit fees, and construction costs. Construction costs are based on construction estimation software developed specifically by MDOT; these estimates are included in Appendix “A”, attached to this report.

The overall project costs also included the expected increase in routine maintenance over the next twenty years. The yearly costs are based on expected routine maintenance values for a 4-lane urban road as defined by a 2003 Florida DOT report entitled “Transportation Costs.”

Per the requirements in the Notice of Funding, both benefits and costs were discounted to the first year considered by the grant project’s schedule, 2020; a discount rate of 7% was considered (as suggested by the BCA Resource Guide).

As shown in the chart below, an overall benefit-cost ratio of **2.77** was obtained and a benefit-cost ratio of **1.26** is obtained at the 7% discount rate; a benefit to cost ratio greater than 1.00 supports the worthwhile nature of this project.

|                                  | Total         | Discounted at 7% |
|----------------------------------|---------------|------------------|
| Total Travel Time Benefits       | \$ 14,275,473 | \$ 4,815,752     |
| Total Vehicle Operating Benefits | \$ 7,724,547  | \$ 2,605,833     |
| Total Residual Value Benefits    | \$ 13,926,897 | \$ 5,047,748     |
| Total Safety Benefits            | \$ 61,721,539 | \$ 22,279,494    |
| Total of All Benefits            | \$ 97,648,456 | \$ 34,748,828    |
| Total Project Costs (20 year)    | \$35,242,578  | \$27,636,842     |
| Benefit / Cost Ratio             | <b>2.77</b>   | <b>1.26</b>      |

Table 6.1 – Benefit-Cost Ratio

### Value of Travel Time Savings

Included in the “Benefit-Cost Analysis Guidance,” DOT has several categories of “Recommended Hourly Values of Travel Time Savings” based on location, type, and means of travel and on occupation of the traveler. For simplicity, U.S. DOT allows an “all-purpose” value of \$16.10 per person-

hour (2017\$) based on a pro-rated value determined from a 2001 National Household Travel Survey.

In calculating traffic time savings, it was estimated that traffic would generally be evenly distributed in heading north towards the Landon Road intersection, south

towards the Airport Road intersection, and continuing easterly. All directions would ultimately converge at a traffic signal and all at Highway 49; for purposes of calculating travel time, signal timing was negated. Simply, travel time in the north and south direction was reduced by the total decrease in length between the starting point and ending point and assuming an average travel speed of 30 mph. Note, future years' AADT is based on a yearly growth rate of 3.0%; this growth rate represents the current trend of this area and anticipated growth due to additional anticipated development.

Beginning with the base \$16.10 (2017\$) all-purpose per person-hour value of travel time, this number was then inflated by 2.5% per year to determine a per person-hour value of travel time for subsequent years. These per year unit values were multiplied by the total yearly time saved by all vehicles (as determined above) to estimate a total value for yearly travel time saved. Finally, a discount rate of 7% was applied per the BCA Resource Guide.

The biggest limitation of this methodology is the lack of consideration given the effect of sending traffic three directions in lieu of concentrating in a single direction. The actual realized value of travel time savings should be much greater than assumed as vehicles that would currently stack for 2-3 traffic signal cycles will now be more evenly distributed across multiple signals.

### Value Operating Costs Savings

With a focus on passenger-related improvements (and improvements to localized freight delivery), this project is expected to provide users cost savings related to operating costs of vehicles (i.e.

gasoline, maintenance, tires, and depreciation. The "Benefit-Cost Analysis Guidance," under Table A-5, lists a recommended value per mile of \$0.40 per mile (2018\$); this value was based on the American Automobile Association's "Your Driving Cost-2017 Edition." This figure was multiplied by the reduced distances and vehicle direction distribution calculated for "Value of Travel Time Savings." Similar inflation per year and AADT increases were applied and the yearly time saved values were discounted at 7%.

### Residual Value

Mentioned above, construction is expected to complete in 2025 and the project benefits and project costs for the subsequent 20 years (i.e. through 2045) were calculated. As an asset to the City, this roadway will experience depreciation over the course of this 20-year cycle. However, it is expected to have a remaining value at the end of this 20-year span.

To determine the residual value of this asset, a reasonably conservative estimate of a 35-year project life span was assumed. The initial value was assumed as the total inflated construction cost (adjusted for inflation) of \$22,230,000 and the asset life span began in 2025, leaving 15 years of service life at the end of the 20-year analysis period. The resulting residual value was adjusted for inflation to 2045 dollars and then discounted at 7%.

### Safety benefits

Safety benefits for this project focus on the very real possibility of a passing train, or worse, stopped train, preventing emergency services from accessing the Gulfport Premium Outlet Mall.

Speaking with representatives of KCS railroad, there are an average of 4 – 5 trains per day crossing Creosote Road (the outlet mall's sole access point); this number is expected to increase with the continual growth of the Port of Gulfport. What's more, this is a 10-mph maximum zone for trains, further prolonging closure time with each passing train. Finally, City Ordinance 6-421 allows trains to block a street crossing for up to 10 minutes. Combined, these factors above give a high probability of an ambulance, police officer, or fire truck being delayed significantly from responding to an emergency event for one of the upwards of 5,544 workers and users (per day) of the outlet mall.

FEMA developed a methodology to monetize loss of emergency service in its 2011 "Development of Standard Economic Values" and these values were adapted to fit this project. In short, the formulas presented determine a per minute increase in probability of fatality (specifically in a cardiac failure) due to delay in Emergency Medical Service response time. These formulas also consider a per minute increase in property damage and injuries in a delayed Fire Service response based on a given population (in this case expected users and workers at a given time).

In calculating benefits due to delayed response time for emergency vehicles, care was taken to prevent assuming unreasonably excessive delays in the no-build scenario. FEMA-indicated values of 5 minutes for average fire response time and 7 minutes for average EMS response time were utilized as base times for the build scenario. Initially, an increase in the no-build scenario of 10 minutes in response time was assumed to mirror the city ordinance

allowing trains to block roads for this length of time. However, this was determined to be excessive as it would assume all emergency vehicles would be blocked at this rate. This number was reduced to a conservative 3 extra minutes response time in the no-build scenario vs the build scenario; this reduced value would account for the probability of the train being stopped, the train passing, the reduction of total length of travel, and the reduced traffic congestion.

Limitations of the safety benefits studied include the insufficient data to justify the anticipated reduction in crashes (and associated injuries and property damage) by reducing the number of vehicles utilizing the Highway 49 and Airport Road intersection. This analysis also did not attempt to quantify the catastrophic effects of a derailed train completely blocking the single point of access for the Outlet mall and / or spilling dangerous chemicals affecting those shoppers (the train at this location accesses DuPont's nearby facility as well as handling cargo off-loaded at the Port of Gulfport). Finally, the safety benefits do not consider this single point of egress being directly in line with the Gulfport-Biloxi International Airport. A single plane crash could see the same unquantified catastrophic effects of a train derailment.

### Other Benefit Considerations

The largest anticipated benefit of this project is more of an economic impact than a direct project benefit and therefore is not quantified in the benefit-cost analysis. This project will leverage BUILD funds to promote future development by providing direct public access and services to 380 acres of real estate in the City's least restrictive and most traveled commercial zone. The



additional property and sales tax generated by a full-build scenario of these properties will incredibly benefit the City of Gulfport, Harrison County, and the State of Mississippi.

There are unquantified benefits associated with the benefit categories above that are qualified within these categories above (i.e. the reducing vehicle queue time at traffic signals is not considered when estimating reduction in travel time.) However, there are other anticipated project benefits that have not been quantified within the Benefit-Cost-Analysis. Such benefits may include:

- 1) Reduction in greenhouse gas emissions by the proposed project's decrease in overall travel time. Per the "Benefit-Cost Analysis (BCA) Resource Guide," reduced emissions such as carbon dioxide, volatile organic compounds, nitrogen oxides, particulate matter and sulfur dioxide can be quantified to significant tangible monetary benefit.
- 2) With the ever-present possibility of a passing or stopped train, and the

tripling of access options to the outlet mall, this project will significantly improve reliability of access to these important commercial areas; however, as noted in the BCA guidance reliability is easy enough to qualify, though difficult to quantify.

- 3) Quality of life will significantly improve for both users of these commercial areas and workers, both of which have to make awkward movements to travel from one commercial district to the next and both of which are subject to long queuing lengths in the existing conditions.
- 4) Finally, the addition of improved public right-of-way access will significantly increase adjacent property values, whereby also increasing the property tax basis. When considering these unquantified benefits, the true benefit-to-cost ratio is anticipated to be much higher than the value reported herein.

## 7. List of Attachments

As requested by the "Notice of Funding Opportunity for the Department of Transportation's National Infrastructure Investments under the Consolidated Appropriations Act, 2019," Attachments to this funding request can be found online at [www.InterconnectingGulfport.com](http://www.InterconnectingGulfport.com).

### Attachments include:

Attachment A – Construction Cost Estimates  
Attachment B – Letters of Support  
Attachment C – Detailed Benefit-Cost Analysis  
Attachment D – Project Schedule  
Attachment E – Anchor Plaza Tax Increment Finance Plan  
Attachment F - MDOT Planning Environmental Linkage Study  
Attachment G – Creosote Extension